Declaration of Dan E. Krane, Ph.D.

1.) I am an associate professor in the Department of Biological Sciences at Wright State University in Dayton, Ohio. I am also the assistant director of Wright State University's Biomedical Sciences Ph.D. program and the lead author of an undergraduate textbook (Fundamentals of Bioinformatics, published by Benjamin Cummings, Inc.) that pertains to the use of computers to analyze biological data at a molecular level. I earned a Ph.D. for my work in the area of molecular biology from the department of Cell and Molecular Biology at the Pennsylvania State University in 1991. Since that time I have received additional training in the fields of population genetics and molecular evolution as a post-doctoral researcher working in the laboratory of Dr. Dan Hartl at both Washington University in St. Louis, MO. and at Harvard University in Cambridge, MA. I have published over 30 articles in peer-reviewed journals and given numerous presentations to professional meetings on topics such as the analysis of human DNA profiles, the accumulation of mutations within the human genome and the effects of pollutants on genetic diversity. My EPA- and NSF-funded research laboratory has generated approximately 15,000 DNA profiles from a variety of different types of organisms in each of the past five years. I have testified as an expert in the fields of molecular biology, population genetics and forensic DNA analysis in over 50 criminal proceedings in 14 different states and federal court over the past 12 years.

2.) I am very familiar with STR DNA testing of the type performed by the crime laboratories across the United States such as that performed by the Federal Bureau of Investigation in the case of Commonwealth v. Lee Boyd Malvo (Fairfax County, VA; case number K102888). I well acquainted with the professional literature on STR testing. I participated in a 3-day training course on STR testing at the National Forensic Science Research and Training Center, in Tampa Florida. I have observed STR testing being conducted and have made a careful study of STR test results in more than thirty cases while serving as a consultant to lawyers who were offering or challenging STR evidence in court cases. I have been qualified and testified in court as an expert on STR testing on at least five separate occasions.

3.) I have been asked by attorney John Strayer to express an opinion about whether a government forensic laboratory, such as the Federal Bureau of Investigation, should be required to disclose the electronic data files created in the course of STR testing to lawyers representing a defendant who is allegedly incriminated by the results of the STR test. For reasons I will explain below, I believe it is essential that the electronic data files be provided to the defense in criminal cases where STR test results will be at issue.

4.) I believe that a defense expert cannot competently evaluate the results of an STR DNA test without having access to the test's underlying electronic data. In my experience, review of electronic data has often led directly to the discovery of important problems or limitations in the STR testing, or to alternative theories of the evidence, that would not have been apparent based on a review of laboratory reports or other laboratory

records. Review of the electronic data frequently reveals: evidence of unnoticed additional contributors to evidence samples; failures of essential control experiments; abnormalities in the running of the machines used to perform the analyses; the identification/confirmation of technical artifacts of the testing procedure itself (i.e. phenomena such as "pull-up" and other matrix failures). These issues cannot be critically addressed by a review of test result print outs, summary reports or laboratory bench notes. In my opinion, review of the electronic data is as important as review of the laboratory's written notes.

5.) My opinion on this issue is widely shared. In my experience, it is general and routine practice throughout the United States for prosecutors to provide to defense lawyers, on request, all underlying laboratory notes and records related to the government's DNA evidence, including electronic files. Laboratories that have routinely provided electronic data suitable for such reviews in my own experience include: the Federal Bureau of Investigation; the Minnesota State Bureau of Criminal Apprehension; Cellmark Laboratories; Lifecodes Laboratory; the Indiana State Police; the Illinois State Police, Forensics Associates; the Kentucky State Police Crime Laboratory; the Serological Research Institute (SERI); and the San Francisco Police Department Crime Laboratory.

6.) There is no legitimate reason for a laboratory to refuse a defendant's request to examine the electronic data. The files are easy to copy to a CD-ROM, Zip disk, or other media. (A CD-ROM is the preferred method for transmitting the data because it provides a permanent record that cannot easily be altered). It takes only a few minutes for a competent operator to identify and copy the relevant files. Copying is accomplished through a simple point and click operation with the computer cursor. The request is in no way burdensome and, in fact, should be much easier to provide than paper copies of a fraction of the underlying data.

/s/

Dan E. Krane
Dayton, Ohio
May 14, 2003

On this 14th day of May 2003 before me a Notary Public in and for the County of Montgomery and State of Ohio, personally appeared the above named Dan E. Krane personally known to me, and acknowledged the execution of the foregoing as a free act and deed for the purposes herein set forth.

/s/

ELLEN REINSCH FRIESE,
Notary Public
In and for the State of Ohio
My Commission Expires 4/5/2008